

**THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:**

1. A jacketed projectile having front and rear ends and comprising a solid central core having a midsection portion which is not in continuous contact with the jacket to allow engraving to occur over at least a portion of the midsection without full support from core when the projectile is fired through a rifled barrel.
- 10 2. A projectile as in claim 1 comprising an encircling gap between the jacket and the core along the surface of said midsection portion of the core.
- 15 3. A projectile as in claim 2 wherein the midsection portion is tapered, tapering towards the front end of the projectile.
4. A projectile as in claim 3 where in the midsection portion is frusto-conical in shape.,
- 20 5. A projectile according to claim 4 wherein the half-conical angle of the frusto-conical portion of the core is between  $0.7^\circ$  and  $1.0^\circ$ .
6. A projectile according to claim 4 wherein the half-conical angle of the festival-conical portion of the core is between  $0.85^\circ$  and  $0.95^\circ$
- 25 7. A projectile according to any one of the preceding claims comprising a short cylindrical portion of the core extending rearwardly from the midsection of the core
- 30 8. A projectile according to claim 7 wherein the cylindrical portion of the core is less than 30% of the length of than the midsection portion.
9. A projectile as in claim 3 comprising an encircling tapered gap between the jacket and the frusto-conical midsection.

10. A projectile as in claim 9 wherein the gap is occupied by a compressible medium.
- 5 11. A projectile as in claim 10 wherein the compressible medium is air.
12. A projectile as in any of the previous claims wherein the steel core comprises carbon steel.
- 10 13. A projectile as in claim 12 wherein the hardness of the steel core is at least 45 on the Rockwell C hardness scale.
14. A projectile as in claim 1 wherein the core comprises a forward portion mounted ahead of the midsection, said forward portion having an ogival shape over at least a portion of its surface and wherein the junction between the forward and the midsection portions provides a relatively smooth transition zone.
- 15 15. A projectile as in claim 14 comprising an inwardly tapering end portion of the core positioned rearwardly of the cylindrical portion.
16. A projectile as in claim 15 wherein the rearwardly tapering end portion of the core has a half-conical angle of about 83°.
- 20 25 17. A projectile in accordance with claim 1 wherein the jacket material comprises gilding metal.
18. A projectile in accordance with claim 17 wherein the gilding metal jacket comprises approximately 90% copper and 10% zinc.
- 30 19. A projectile according to claim 18 wherein the gilding metal jacket is thicker than that normally used on conventional ball projectiles.

20. A projectile according to any of the above claims in combination with a casing dimensioned to fit into a standard firearm wherein the overall length of the projectile is greater than that of conventional ball projectiles and wherein the projectile, when fitted into its casing, provides a cartridge with a length suited to  
5 fit into a standard firearm having a casing of the same diameter.